

REMARKS

Applicants appreciate the Examiner's thorough examination of the present application as evidenced by the Office Action of November 3, 2005 (hereinafter "Office Action"). In response, Applicants have amended independent Claims 17, 39, and 61 to clarify that the knowledge base is used by the agent in generating a response to the customer communication. Applicants respectfully submit that the cited references do not disclose or suggest, at least, a knowledge base and the use thereof that includes information generated from one or more conversations. Accordingly, Applicants submit that all pending claims are in condition for allowance. Favorable reconsideration of all pending claims is respectfully requested for at least the reasons discussed hereafter.

Claims 1, 17, 23, 39, 45, and 61 are Patentable

Independent Claims 1, 17, 23, 39, 45, and 61 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U. S. Patent Application Publication 2001/0049688 to Fratkina et al. (hereinafter "Fratkina") in view of U. S. Patent No. 6,751,591 to Gorin et al. (hereinafter "Gorin"). (Office Action, page 3). Applicants note that independent Claims 17, 39, and 61 are rejected under 35 U.S.C. §102(e) as being anticipated by Fratkina, but the analysis in the Office Action discusses the combination of Fratkina and Gorin so, for purposes of this response, Applicants are assuming that the Examiner intended to reject Claims 17, 39, and 61 under 35 U.S.C. §103(a). Independent Claim 1 is directed to a method of responding to a customer communication that recites, in part:

...
generating a response to the utterance received from the customer at the agent based on a knowledge base that comprises information extracted from at least one exemplary conversation, wherein the at least one exemplary conversation comprises an exchange of utterances; and
... (emphasis added).

Independent Claim 17 is directed to a method of training an agent to respond to a customer communication that recites:

compiling at least one exemplary conversation, wherein the at least one exemplary conversation comprises an exchange of utterances;

annotating the compiled at least one conversation to categorize information contained therein;
processing the annotated at least one conversation using a machine learning engine to populate a knowledge base for use by the agent in generating a response to the customer communication. (Emphasis added).

Independent Claims 23, 39, 45, and 61 include similar recitations. Thus, according to independent Claim 1 a response is generated at the agent based on a knowledge base that includes information generated from one or more conversations. According to independent Claim 17, an agent is trained by compiling one or more exemplary conversations, annotating the compiled conversation(s), and processing the annotated conversation(s) to populate a knowledge base for use by the agent in generating a response to the customer communication.

In sharp contrast, Fratkina describes a system that attempts to model interaction between a machine and a human being in the way that people interact with one another. (Fratkina, paragraph 13). In this regard, Fratkina describes the computer system prompting the user with questions to obtain more information with respect to a particular problem/question. (Fratkina, paragraphs 13, 384, and 385). Applicants further acknowledge that Fratkina describes the use of a knowledge map 234 (*see*, Fratkina FIG. 3). Applicants note, however, that Fratkina appears to contain no teaching or suggestion that the knowledge map 234 be populated with information generated from one or more conversations. The Office Action acknowledges that Fratkina does not disclose or suggest a knowledge base that is populated with information based on one or more exemplary conversations involving an exchange of utterances, but alleges that Gorin provides the missing teachings. (Office Action, pages 3 and 13).

Applicants respectfully disagree. Applicants acknowledge that Gorin describes a system in which previous conversations are stored in a dialog history database 170. (Gorin, col. 4, lines 3 - 5). In sharp contrast to the recitations of independent Claim 1, however, Gorin does not use the conversations stored in the dialog history database 170 to generate a response to an utterance received from a customer at an agent. Instead, Gorin makes use of a Natural Language Understanding (NLU) monitor that is configured to monitor a dialog and, using a training database 165 and the dialog history database 170, predict whether the dialog will result in an NLU error. Gorin explains this as follows:

In the natural language understanding monitoring system 100, the dialog history database 170 serves as a database for storing each dialog exchange for a particular dialog. The training database 165 stores NLU errors collected from interactions with human users and models built based on those errors, the NLU features identified from the collected dialogs, and the NLU rules generated from the dialogs and the NLU features. The NLU monitor 180 exploits the training database 165 by using the dialog history stored in the dialog history database 170 to predict whether a NLU error is to occur in the current dialog. While the training database 165 and the dialog history database 170 are shown as separate databases in the exemplary embodiments, the dialog history and training data may be stored in the same database or memory, for example. This database or memory may be stored external or internal to the system. (Gorin, col. 4, lines - 18).

Thus, Applicants submit that even if Gorin were to be combined with Fratkina, the combination does not describe or suggest, at least, generating a response to an utterance received from a customer at an agent based on a knowledge base that comprises information extracted from one or more exemplary conversations as recited in independent Claim 1 or populating a knowledge base with one or more annotated conversations for use by the agent in generating a response to the customer communication as recited in independent Claim 17. By adding the teachings of Gorin to Fratkina's system for modeling interaction between a machine and a human being, the resulting system may have the capability of estimating when a particular dialog between a machine and a human may result in an NLU error. The combination does not, however, provide any teaching or suggestion of using stored conversations to generate the responses that are provided by the machine to the human user.

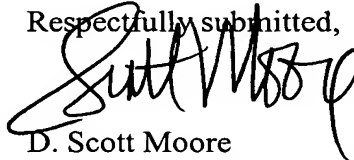
For at least the foregoing reasons, Applicants respectfully submit that independent Claims 1, 17, 23, 39, 45, and 61 are patentable over Fratkina and that dependent Claims 2 - 16, 18 - 22, 24 - 38, 40 - 44, 46 - 60, and 62 - 66 are patentable at least by virtue of their depending from an allowable claim.

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CONCLUSION

In light of the above amendments and remarks, Applicants respectfully submit that the above-entitled application is now in condition for allowance. Favorable reconsideration of this application, as amended, is respectfully requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (919) 854-1400.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on February 3, 2006.


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